UNIT SET FIELDING

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Introduction

Among the key goals of the Army's transformation effort is development of a new strategy that will allow field units to comprehensively receive and be trained on all new systems at once. This strategy, called Unit Set Fielding (USF), is a disciplined "system-of-systems" approach to synchronize fielding of new and recapitalized systems along with unit enablers like training devices and installation support and sustainment capabilities. Its purpose is to maximize unit operational readiness by fielding a cohesive package of capabilities, while minimizing disruptions caused by uncoordinated fielding of individual systems.

For a unit to realize the full benefit of new weapons, sensors, digital command and control systems, and corresponding training aids, devices, simulators, and simulations (TADSS), equipment must be fielded as a unit set. The facilities where the equipment will be operated and maintained and where soldiers will be trained to use it must be in place when the set is delivered to the unit. The Army has long needed a process that packages these required items together and identifies windows for fielding them by unit sets. USF is that process.

Process

The Army will implement the USF process in a cycle that begins 5 to 7 years prior to the beginning of a unit's designated fielding window and ends approximately 2 years after the window closes. A USF cycle includes five phases: preparation, reorganization, fielding, training, and validation.

Preparation is a critical phase of USF, and the integration of doctrine, training, leader development, organization, materiel and soldier (DTLOMS) must begin early. This phase must ensure all resource requirements are identified, programmed, and funded. The preparation phase addresses actions that will occur as far out as 7 years or as close as 6 months before a unit enters its USF window. Program, project, and product managers (PMs); major commands (MACOMs); the Corps of Engineers; and installation managers ensure that requirements for installation facilities, ranges, information infrastructure, training simulators, or other changes are identified and submitted for military construction funding. Requirements are then submitted to Headquarters, Department of the Army (HQDA) and MACOMs for inclusion in the Program Objective Memorandum (POM). Successful fielding of multiple systems requires more than just a mere synchronization of schedules. It requires a more encompassing process. As such, the Army developed the Unit Set Fielding Schedule (USFS). The USFS defines the USF windows and will drive synchronized planning and execution of activities required to field interrelated and interdependent systems including training devices. It requires integration across all areas of DTLOMS and the POM process.

Reorganization is the phase that begins about 6 months before the USF window and concludes at E-date—the effective date that a unit must complete its reorganization. This phase entails transition from the unit's current Modified Table of Organization and Equipment (MTOE) to a new MTOE. During this phase, facilities are completed; training devices, training support infrastructure, and tactics, techniques, and procedures are in place; personnel are assigned; and equipment turn-ins are completed.

Fielding is the phase in which the USF window occurs, and includes equipping and new equipment training (NET). The PM for each system will conduct NET. Completion of NET for all systems in the unit set closes the window, and the unit will be taken off C5 status. (Units categorized as C5 are exempt from reporting readiness levels.)

Training is the phase where the unit is responsible for conducting collective and sustainment training. This training will start after completion of NET and will normally be completed within 18 months after the unit's E-date.

Validation is the phase that completes the cycle and validates the unit's operational readiness. The gaining MACOM is responsible for ensuring validation of the operational readiness of the unit to execute its assigned mission. Validation will be the final step of the training phase and completes the USF cycle.

Under traditional fielding, units receive multiple, separate, and unsynchronized individual system packages. Traditional fielding processes rarely provide a complete and fully integrated operational capability and are disruptive to unit training and readiness. Battlefield digitization has complicated the problem because an increasing number of digitized and modernized systems are being fielded along with successive software upgrades;

furthermore, digital systems are inherently designed in a system-of-systems environment. As a result, fielding a disparate array of digital systems does not provide added value or required capabilities. As the Army moves forward with modernization and transformation efforts, it must change its fielding process so that fieldings are sequenced according to operational priorities and the Army's Transformation Campaign Plan. The Army must ensure synchronization of requirements generation, materiel development and acquisition, manpower and personnel, funding, testing, training, fielding, sustainment, and support facilities in the system-of-systems context. Crucial to managing and fielding unit sets of equipment is ensuring that all the available components for a required operational capability, to include the associated training base and installation infrastructure, are fully integrated as a unit set prior to fielding.

Impact

The USF concept may have a significant impact on the acquisition community and how it manages its programs. This includes integrating an array of functional capabilities that were previously managed as separate distinct actions and did not influence the fielding of the PM's system. Individual components or systems may provide significant standalone improvements in unit capability, but they do not achieve their full operational capability until they are integrated with the other systems comprising the unit-configured set. System integration plays a key role in prioritization of program adjustments at both technical and programmatic levels.

The key to USF is ensuring that all set components including warfighting equipment, digital hardware and software, support facilities, TADSS, personnel, and associated support items are integrated during the fielding process. Hardware and software must be identified and interoperability certified to establish a configuration baseline prior to fielding. That baseline must be maintained and sustained after fielding.

The USF process also raises questions regarding the balance of system requirements, funding, and integration requirements. For example, what if a tank is ready to be fielded but the communication software is not? Should the Army hold the tank until the software is ready? How does a delay in fielding impact contractual obligations, future deliveries, and additional fieldings? Are there any second-order impacts? If a particular system does not pass its initial operational test and evaluation (IOTE), will the entire package be delayed until that system is ready? Will the system have to wait until the next available USF window, which could be years? At what point should the Army draw the line and field the system? Who has the authority to make the determination? Should the Army identify pacing items that would be salient focal points under USF? If the Army adopts pacing items, are we then reverting to traditional fielding? Failure to meet a weapon systems schedule or a slip in production may result in delaying the fielding of the entire system as part of the system-of-systems approach. These types of questions are still emerging, and their resolution will impact PMs. For example, PMs may find themselves sacrificing quantity to resource items such as TADSS. Pressure on a program may be heightened, and the PM may lose some flexibility.

The USF approach may also impact the complexity, cost, and schedule of IOTE. In the past, individual weapon systems have undergone separate and distinct IOTEs. One unknown today is whether the USF approach will require a system-of-systems IOTE to ensure the synchronization and integration goals are met for operational readiness. The Army has already seen that this type of approach can result in large, complex, and expensive IOTEs for system-of-systems programs where the success or failure of a single system influences the outcome of others. One such instance is the Force XXI Battle Command Brigade and Below (FBCB2) Limited User Test (LUT). An attempt was made to test numerous systems simultaneously. When failures occurred, it was difficult to isolate the cause and hence identify corrective action, thereby increasing associated costs.

Conclusion

Meeting the goals of USF will require a greater degree of communication and coordination among the PM, Army installations, training centers, and HQDA. Handled properly, USF should provide the soldier in the field with greater capabilities.

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